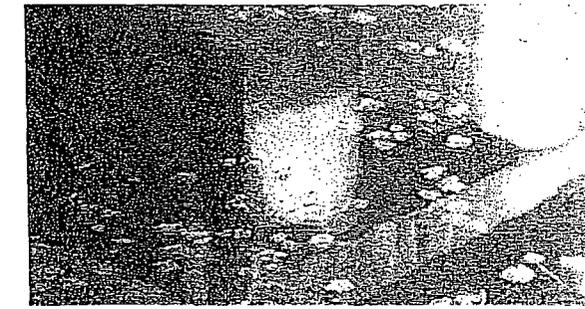
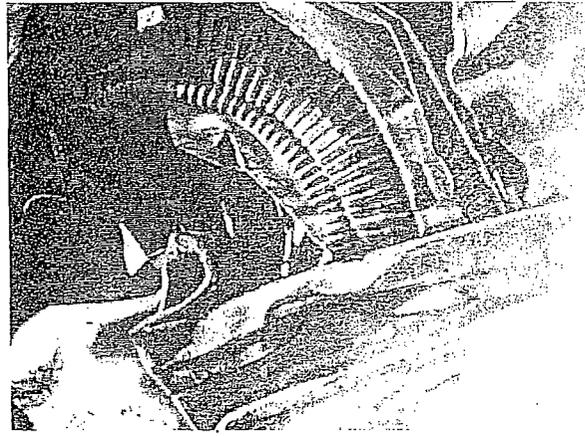


B&W SF
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*Historical Characterization
and Data Gaps*

*Old Bremerton Gasworks Property
1725 Pennsylvania Avenue
Bremerton, Washington*

*Prepared for
Washington State
Department of Ecology*

*May 2, 2007
17330-07*

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HARTCROWSER

**APPENDIX C
HISTORICAL DOCUMENT REGARDING
THE WESTERN GAS COMPANY**

An Investigation
of The Western Gas Company of Washington
Bremerton, Washington

pertaining to
Fire Hazard at the Gas Plant
Disposal of By-Products
Proposed Piping Ordinances

by
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The Honorable H. A. Bruenn
Mayor of the City of Bremerton
Bremerton, Washington

Dear Sir:

Attached you will find the results of the investigation requested in your letter of March 14, pertaining to (1) fire-hazard at the local plant, (2) disposal of by-products, and (3) the proposed piping ordinance. Included in the report are suggested remedial measures for the conditions which were found to exist.

An attempt has been made to examine the gas plant proper to establish whether or not it will be able to supply the demand for gas if the city of Bremerton, its surrounding territory, and the Navy Yard continue to grow at the present rate. I shall be ready to make a further report at any time you express the wish for such additional investigation.

Respectfully submitted,

S. E. Fyfe

S. E. Fyfe



25-9042
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AN INVESTIGATION OF THE WESTERN GAS COMPANY OF WASHINGTON

The Western Gas Company of Washington, located at Bremerton, Washington, was inspected on March 23 to establish whether or not it constituted a fire hazard and what disposal may be made of those by-products which cannot be sold. Moreover, the request made by the City Council to scrutinize the proposed ordinance for "The Installation, Maintenance, and Use of Piping and Fittings for City Gas" in customers' premises, was complied with.

The inspection trip to the gas plant was conducted by the Fire Chief, the Gas Plant Manager, and the writer.

INTRODUCTION

The plant itself is in a condition which can best be described as "better than average". About 700,000 cubic feet of carburated water-gas of 500 British thermal units heating value is made per day, and leaves the plant at a pressure of 40 pounds per square inch. This output seems to be close to the capacity of the plant. Any extensive growth of Bremerton, its surrounding territory, or the Navy Yard may, before long, demand increased gas-manufacturing capacity.

FIRE HAZARD

For the removal of tar from the gas, it is passed through apparatus filled with wood chips. In the past, excelsior was used for this purpose. While removing the tar from the gas, this material itself becomes covered with it and must finally be disposed of. Saturation occurs to a lesser extent with the iron-oxide-covered chips in other apparatus used for the removal of sulfur compounds from the gas.

The tar-laden wood chips and also the previously used tar-covered excelsior, as well as soot from the water-gas machines, is dumped at the edge of the plant near the oil-storage tanks in order to fill a gully. Tests conducted at the plant showed that (1) the soot will burn moderately, just about like fine coal; (2) the wood chips will burn somewhat better, just like kindling; and (3) the tar-coated excelsior, when lighted, will flare up—as was to be expected. This condition, and particularly the proximity of the dump to the oil-storage tanks, constitutes a distinct fire hazard; especially so as no adequate fire protection is available in this section of the city.

DISPOSAL OF BY-PRODUCTS

The by-products of the gas plant consist of water-gas tar, a tar emulsion (combination of tar and water), and its effluent liquor, which is mostly water mixed with a little tar and oil.

The tar proper is sold to the Barrett Company and is shipped to Canada. The effluent liquor is lately being cooled to remove its condensable vapors and is sent to the bay through a drain pipe. The tar emulsion is dumped in shallow pits dug at random in the ground.

Tests conducted at the plant show that the emulsion carries so much water that it will not burn in its present state, not even when exposed to a bonfire. Therefore, it is decidedly not a fire hazard.

The pits or pools containing this emulsion are not guarded or fenced in, and therefore constitute a safety hazard for children playing around them and for others cutting across the vacant property on which these pits are located.

THE PIPING ORDINANCE

The proposed piping ordinance has been carefully examined. It is found to be an excellent one as a whole, but experience with it has pointed to some discrepancies, inaccuracies, and even some impossibilities.

RECOMMENDATIONS

FIRE HAZARD

a. A fire plug or hydrant should be installed in the street in front of the gas plant, and should be connected to the water main located there. This hydrant will also give fire protection to the houses across the street.

b. The tar-laden excelsior which is exposed to sight or easily accessible should be raked out of the dump, carried to a safe place, and burned.

c. The tar-covered wood chips, when dumped, should be evenly spread or raked out and be covered with a layer of the soot. This, in turn, should be covered with a layer of the ashes and cinders now dumped elsewhere. Care should be taken to have the ashes and cinders thoroughly quenched.

These suggestions will eliminate the fire hazard and change it to a safe dump.

Of course, the chips could also be burned if convenient, but this is not considered necessary if they are covered as suggested.

THE DISPOSAL OF BY-PRODUCTS

a. The disposal of effluent into the bay should be tolerated as long as it does not constitute too great a nuisance. Otherwise, it should be passed through a soke filter, which will absorb some of its objectionable constituents. The soke itself when saturated with these can be used up in the water-gas machines. However, the new cooler may have sufficiently cleared up this situation.

b. The sludge could be used as road material, either after being treated, or as it is. In either case, the amount involved is too small to

warrant extensive preparations. Therefore, the gas company should be allowed to dispose of this at its own discretion, in either of two ways: (1) to cover the unpaved road to its own plant with a very thin layer, if the city will immediately cover it with sand; (2) to continue to dump it in shallow pits, but to put a simple and inexpensive fence around these, and ultimately to cover them with dirt. The fence will safeguard the pits sufficiently so as to remove all danger.

THE PIPING ORDINANCE

The following changes are recommended in the proposed piping ordinance:

Section

- 3-b Fourth line: change the word "never" to "not".
- 3-f Add "and an extension light complete with guard".
- 4-a Add "such craftsman shall also install the electric wiring between the standard electric system and any step-down transformer (similar to a doorbell transformer) furnishing a low voltage current for any gas-regulating device."
- 6-a b should come first and be called a; a should come second and be called b.
- 8 Do not add the words "20 lbs air pressure", inserted in red in the code. Section 4 of the appendix covers the details of testing.
- 11 Reference is made in a and b to "a gas fitter not in the employ of the gas company". In c and d reference is made to "a gas fitter", but "a gas fitter not in the employ of the gas company" is meant.
- 12-c Fourth line: delete "or into the combustion...burning flame".
- 14-a Ninth line: change the word "best" to "standard".
- 14-d Fourth line: change the word "perfect" to "good"; delete "in that building".
- 14-e Change "all bends" to "all sharp bends".

17 Change to read: "Piping to be Sloped.

All piping shall be sloped, preferably not less than $\frac{1}{4}$ inch in 15 feet to prevent traps. The entire piping system should drain back towards the meter, unless the structure is so framed as to prevent this; but this rule does not permit violation of Rule 16. In the latter case, proper means must be provided to take care of the condensate."

Whether or not the appendix is intended to be part of the ordinance is problematical. If it is to be included, then exception is taken to section 9. This section is called "Inspection of New Piping", but it concerns itself greatly with the testing of the piping by the proper administrative authority. No one is more interested in a tight piping system than the gas company, and it should do the testing without further supervision. Otherwise, the testing equipment will have to remain connected until a city inspector gets on the job. Past experience with a similar code has shown that this may take days. In the meantime the customer is deprived of the use of gas, and the gas company's testing apparatus is tied up or must be reinstalled.